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WHAT IS CLAIMED IS:

- 1 1. A shoe construction for a shoe, comprising:
2 a sole having a naturally contoured shape defined by a design
3 which conforms to the natural shape of the unloaded foot wherein
4 the theoretically ideal stability plane is determined by the
5 desired shoe sole thickness and by the natural shape of a foot
6 surface of the individual, said theoretically ideal stability plane
7 being defined at an edge of the shoe by the desired shoe sole
8 thickness in a frontal plane cross section, said shoe sole
9 thickness increasing beyond the theoretically ideal stability plane
10 to increase stability beyond its natural level.

- 1 2. The shoe sole construction as set forth in claim 1 wherein
2 the thickness of the sole at least at one of the opposed edges of
3 said sole is thicker at the portions of the sole by a thickness
4 which gradually varies continuously from a first thickness through
5 at least an additional thickness.

- 1 3. The shoe sole construction as set forth in claim 1 wherein
2 the thickness of the sole gradually varies so that at least a
3 portion of said sole has a thickness which is greater than the
4 thickness predicted by the theoretically ideal stability plane.

- 1 4. The shoe sole construction as set forth in claim 1 wherein
2 the shoe sole is made from a material or materials which deform
3 when the shoe is worn thus naturally closely paralleling the
4 natural deformation of the bare foot under load.

- 1 5. The shoe sole construction as set forth in claim 1 wherein
2 the shoe sole thickness varies in a frontal plane cross section.

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1 6. The shoe sole construction as set forth in claim 1,
2 wherein said shoe sole thickness increases beyond the theoretically
3 ideal stability plane in order to provide greater than natural
4 stability.

1 7. The shoe sole construction as set forth in claim 1,
2 wherein said shoe sole thickness increases beyond the theoretically
3 ideal stability plane in such a manner that there are
4 proportionately equal increases to the theoretically ideal
5 stability plane from the front of the shoe sole to its back.

1 8. The shoe sole construction as set forth in claim 1 wherein
2 said shoe sole thickness increases beyond the theoretically ideal
3 stability plane in such a manner that the thickness varies from
4 one frontal plane cross section to another.

1 9. The shoe sole construction as set forth in claim 2 wherein
2 variations in the increased thickness of the sole are determined
3 empirically.

1 10. The shoe sole construction as set forth in claim 2
2 wherein said thickness variations are symmetrical as between
3 lateral and medial sides of said shoe.

1 11. The shoe sole construction as set forth in claim 2
2 wherein said thickness variations are asymmetrical as between
3 lateral and medial sides of said shoe.

1 12. The shoe sole construction as set forth in claim 2
2 wherein said thickness variations begin beneath the heel of the
3 wearer.

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1 13. The shoe sole construction as set forth in claim 2
2 wherein said thickness variations begin at a point beneath the heel
3 of the wearer, so that the theoretical ideal stability plane is
4 determined by the least thickness in the load-bearing portion of
5 the shoe sole.

1 14. The shoe sole construction as set forth in claim 2
2 wherein said thickness variations increase then decrease along said
3 outer sole contour in a frontal plane cross section.

1 15. A shoe sole construction for a shoe, comprising:
2 a sole having a naturally contoured shape defined by a design
3 which conforms to the natural shape of the unloaded foot wherein
4 the theoretically ideal stability plane is determined by the
5 desired shoe sole thickness which is normally constant in a frontal
6 plane cross section, said sole including a midsole having a density
7 variation to approximate a greater than natural stability, said
8 midsole having material of greater density nearer to the edge of
9 the shoe sole and material of lesser density nearer to the center
10 line of the shoe sole.

1 16. The shoe as set forth in claim 15 wherein material of
2 least density is located beneath the heel of a wearer and material
3 of greater density is located adjacent said material of least
4 density.

1 17. The shoe as set forth in claim 15 wherein said sole has
2 a portion which extends beyond the theoretically ideal stability
3 plane.

1 18. The shoe as set forth in claim 15 wherein said density
2 variation is provided by variations in the bottom sole tread.

1 19. A shoe construction comprising,
2 a shoe sole having opposed stability quadrant portions
3 at opposed edges of said sole, said quadrants portions having an
4 outer edge which is defined by a radius quarter than a radius
5 defining a theoretically ideal stability plane.

1 20. A shoe construction for a shoe, comprising:
2 a sole having a naturally contoured shape defined by a design
3 which conforms to the natural shape of the unloaded foot wherein
4 the theoretically ideal stability plane is determined by the
5 desired shoe sole thickness and by the natural shape of a foot
6 surface of the individual, said theoretically ideal stability plane
7 being defined at an edge of the shoe by the desired shoe sole
8 thickness in a frontal plane cross section, said shoe sole
9 thickness decreasing from the theoretically ideal stability plane
10 to increase foot motion beyond its natural level.

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